AMENDMENTS TO THE SPECIFICATION

Please amend the specification as follows:

Page 1, paragraph 4, please amend as follows:

FIG. 1 is a circuit showing the conventional low-pass filter. In FIG. 1, the cut-off frequency is $\dfrac{1}{R1 \cdot C1}$. When the cut-off frequency is set ~~as~~ at 10Hz, the product of the resistance of the resistor R1 and the capacitance of the capacitor C1 must be $\dfrac{1}{2 \cdot \pi \cdot 10}$. A reasonable capacitance of a capacitor made by a common semiconductor process, however, is 10Pf. Thus, when the capacitance of a capacitor C1 is 10Pf, the resistance of the resistor R1 must be 1592Meg. It is costly, however, to fabricate a resistor with resistance of 1592Meg, which is an unreasonable value. The area requirement of the common semiconductor process to form a resistor with the resistance of 1592Meg must be $1262u \cdot 1262um^2$, which is unreasonable large to the modern IC circuit device. Thus, it is difficult to form a resistor having a very large resistance. Thus, the cut-off frequency of the conventional filter is limited by the resistance and the capacitance of the semiconductor device, ~~thus~~ as a result of which conventional filter quality suffers.

Page 2, paragraph 2, please amend as follows:

To achieve the above-mentioned object, the filter circuit of the present invention provides a transconductance device for outputting a current signal according to an input voltage and a feedback voltage~~;~~ a transresistance device

coupled to the transconductance device for outputting a output voltage according to the current signal, and a feedback device coupled between the transconductance device and the transresistance device for outputting the feedback voltage according to the output voltage. The transresistance device is coupled to the transconductance device via a resistor network comprising a plurality of stages connected serially, wherein each stage of the resistor network comprises: an input node, an output node, a first resistor coupled between the input node and the ground, and a second resistor coupled between the input node and the output node.

Page 4, paragraph 6, please amend as follows:

FIG. 2 is a circuit of a resistor network comprising five stages. The resistances of the resistors can be set to any combination. Here, the resistance of the resistors R10, R11, R13, R15, R17 and R19 is set as the twice that of the resistors R12, R14, R16 and R18. The equivalent circuit of the resistor network is the resistance of the parallel connection of the resistors R10 and R11, which is 1R, and this is then connected in series to the resistor R12, thus so that the equivalent resistance is 2R. Next, the equivalent resistor is connected in parallel to the resistor R13 and so on. Thus, the resistance of each current path at the nodes 20, 22, 24, 26 and 28 is 2R. Therefore, when the current I is input to the input terminal Vi1, the current value of the current is halved when passing through the nodes 20, 22, 24, 26 and 28. FIG. 2 also shows the value of the current on each resistor. Because the circuit structure is a resistor network having five stages, the value of

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the current output from the output terminal Vo1 is $I/2^5$. In addition, the output current decreases when the stage number of the resistor ladder increases.

Page 6, paragraph 2, please amend as follows:

The feedback circuit 34 is coupled between the output terminal Vo and the converting input terminal of the operational amplifier OP1 to transfer the output signal of the integrator circuit 32 to the feedback signal Vf. Here, the feedback signal Vf is inverted to the output signal of the integrator circuit 32. The feedback circuit 34 comprises an operational amplifier OP3 having a grounded non-converting input terminal, a converting input terminal coupled to the output terminal Vo and a~an output terminal coupled to the converting input terminal of the operational amplifier OP1 to output the feedback signal Vf. The resistor R11 is coupled between the output terminal of the operational amplifier OP2 and the converting input terminal of the operational amplifier OP3, and the resistor R12 is coupled between the output terminal and the'converting input terminal of the operational amplifier OP3.

Page 7, paragraph 1, please amend as follows:

If the resistance of the resistors R21 and R22 are the same, the operational amplifier OP3 generates the reverse voltage of the output voltage Vo. If, however, the resistance of resistors R21 and R22 can be adjusted according to feedback to achieve an appropriate feedback value.~, The-the appropriate feedback value is added to the input voltage Vi, combining the resistor network and the integrator 32,

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thus to obtain a low-pass filter is obtained, which has a cut-off frequency

$1/(\mathrm{Re}q \times C1)$. Here, Req represents the equivalent resistance of the resistor

network. In addition, the integrator 32 according to the embodiment of the present

invention implements the resistor network as the resistive load 31, so the

equivalent resistance Req of the resistive load 31 is $R \times 2^N$. Using a 16-stage

resistor network as an example, the unit resistance is 0.024Meg. In addition, the

total resistance is only 1.176 Meg. Compared with the conventional low-pass filter

circuit, the low-pass filter circuit of the present invention achieves the same cut-off

frequency by using 1/1353 resistance of the conventional low-pass filter circuit.

Page 7, paragraph 2, please amend as follows:

In addition, the feedback circuit 34 and the adder 30 can be replaced with a

subtractor. In the present invention, the proportional of the resistance on the first

current path and the second current path isn't limited on 1:2,. actuallyActually, it

can be any other value, for example, 1:3 or 3:2. In other words, a larger

resistance is obtained by using the resistor network with a plurality of stages.